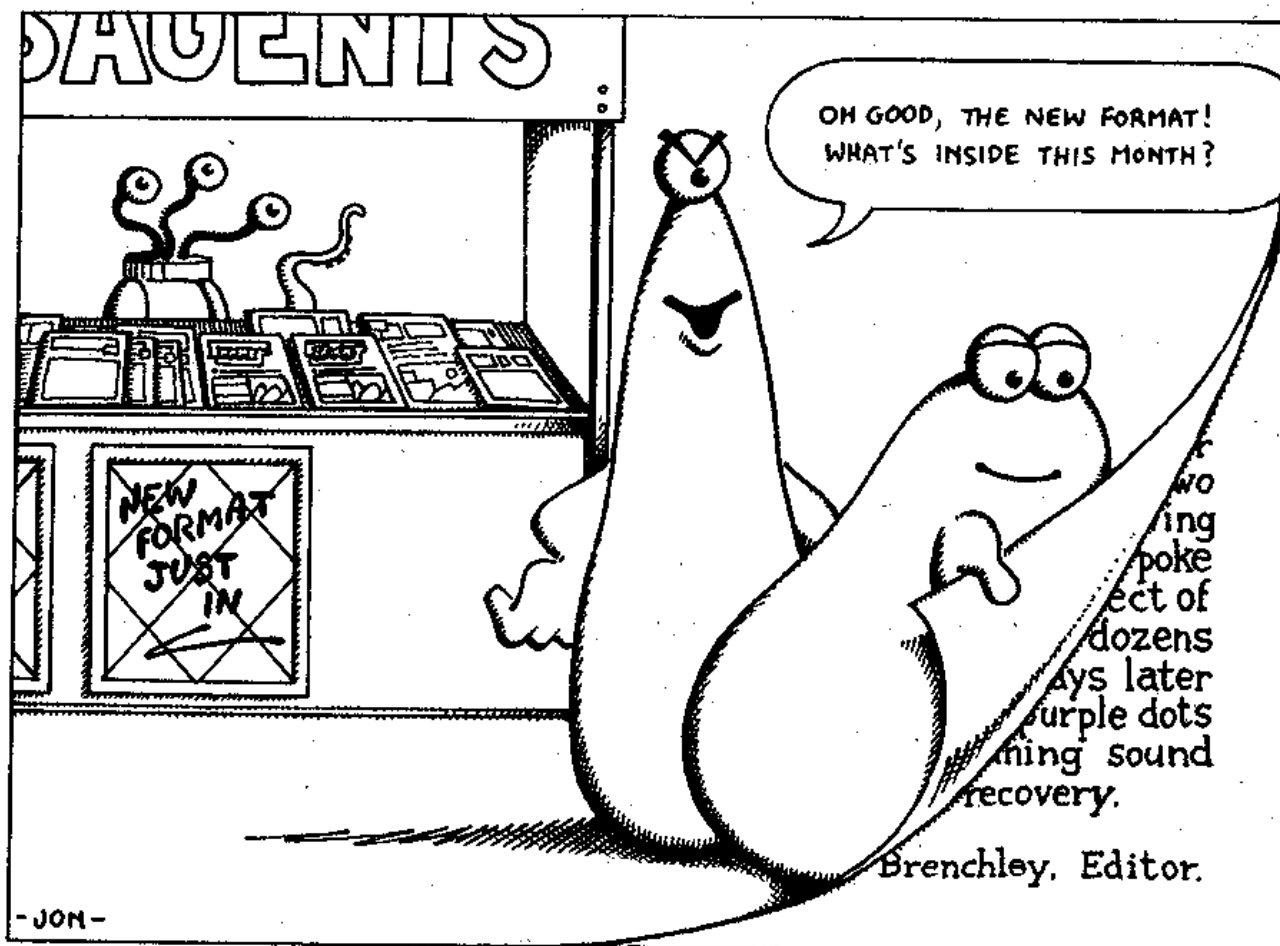


Vol 4 - No 11.

July 1991.

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# CONTENTS

Vol.4 No.11.

July 1991.

News On 4.....	4
The Editor Speaks.....	7
Short Spot.....	9
TRANSPACK Reviewed.....	13
MasterBASIC Reviewed.....	15
Thought Spot.....	17
Decision Tables - Part 2.....	19
A Pair Of Rays.....	21
1991 Membership Drive.....	23
SAM's Public.....	25
Unidos Poker - Part 2.....	29
The JOY-MOUSE Reviewed.....	32
Nev's Help Page.....	34
Your Letters.....	37
Small Ads.....	38
FORMAT Readers Service.....	39

THIS MONTHS ADVERTISERS:-	BETASOFT	24
	BETTERBYTES	Back Cover
	B.G.SERVICES	14
	BLUE ALPHA ELECTRONICS	31
	CHEZRON SOFTWARE	12
	FLEXIBASE SOFTWARE	36
	FRED	18
	JAMES BROWN	22
	KOBRAHSOFT	2
	LERM	6
	PBT ELECTRONICS	5
	S.D.SOFTWARE	28
	STEVE'S SOFTWARE	8
	TEACHERS. PET SOFTWARE	31

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# NEWS ON 4

## AMSTRAD STOP UK PRODUCTION

Following last months announcement of job cuts at Amstrad's Brentwood offices come news of more job losses.

Amstrad's UK production plant at Kirkaldy in Scotland looks set to close in the next few months. While some workers will be found other jobs within the company there will be many redundancies.

Production will be switched to facilities in Korea which have in the past produced the +3, +2a and the CPC range of computers. Job cuts will also be made at other European factories as Amstrad seeks to cut costs in what is now a very competitive market place.

## SUGAR GOES FOOTBALL CRAZY

Alan Sugar looks set to become a major share holder in the Tottenham Hotspur football club. The deal, estimated to involve a total investment of between 10 and 15 million pounds over the next five years, came as Spurs sank deeper into financial trouble. Spurs currently owe the Midland Bank over £11 million.

Despite the fall in Amstrad's profits Sugar has a personal fortune estimated at £150 million.

I wonder if this will mean all future players will have to be manufactured in the Far East?

## F16 DEMO FOR CRASH

A demo version of the new SAM Coupé version of F16 Combat Pilot is to feature on CRASH's cover mounted tape in the near future. Sam owners are advised to check the next couple of issues as CRASH could not confirm which one it would appear on.

## US GOLD GO DOUBLE FORMAT

In an effort to make life easier for beleaguered retailers US Gold has announced that some of its future full price games will be released on dual

format cassettes. In the first instant Spectrum and Amstrad CPC versions will be placed on the same tape, cutting costs and making stock holding easier for both the distributor and retailer.

The move has met with mixed reception in the trade but with computer games having to fight for their share of shelf space this may be a move followed by other software houses in the near future.

## EASTERN EUROPE GROWTH

The SAM Coupé continues to receive acclaim in several ex communist block countries. Poland's leading magazine has recently given SAM extensive coverage.

Unlike the UK, where the media count the number of bits the processor can handle and rate the computer accordingly, Polish magazines look at the machines capabilities and strengths. Perhaps we should send over the staff writers from some of the UK mags so they can find out from the Polish what real computing is all about.

## P.B.S. FOR SAM

Hilton Computer Service are to publish a SAM version of their very popular Personal Banking System priced at £19.95. PBS first appeared on the ZX81 but versions are now available for many home micros and for IBM PCs (where it starts at £40).

The program is a very advanced banking/reconciliation system which will prove useful both to personal users, with several bank accounts to keep track of, and to small business users.

Hilton are releasing beta test versions at a special price to selected customers in order to get user feedback. A special price has been arranged and beta test users will receive the final version as soon as it is available. More details from Hilton on 04867 80503.

## SAMCO ANNOUNCE MOUSE

Hot on the heels of the launch of the Joy-Mouse from Blue Alpha, Sam Computers have announced that their long awaited mouse for the Coupé will be available from the end of June.

Priced at £39.95 the package will consist of an interface and mouse together with a disc containing a modified version of FLASH and a simple WIMP environment program.

At the same time Samco are releasing an alternative for people who's desk space is too cluttered for a mouse. A Tracker Ball system, priced at £49.95 it comes with the same interface and software as the mouse package.

## FIRST COMPUTER BUILT 1991!

Yes that's right, the year is 1991, and the world's first computer is under construction at the London Science Museum.

Two hundred years after the birth of Charles Babbage his Difference Engine is being built. Long credited as the Father of computing his design was never built, some say because the workmanship of his age was not up to the close tolerances need to make the mechanical monster.

Well now a team of experts are beavering away to prove the pundits wrong, and we are pleased to report that early tests (one shown on the BBC's Tomorrows World programme) show everything is working fine - just a Babbage designed. Using only the tools, materials and techniques available in the 18th century the construction should be ready for the opening of a special Babbage exhibition which will run at the Science Museum from July 1991 until January 1992. It is hoped that permanent space will then be found for the world's FIRST computer.

News Credits: D.R.Masters.

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This months FORMAT seems to be overflowing with reviews, which is very nice to see as it shows product releases are picking up again after the lean spell at the start of the year. Reviews are, of course, personal opinions, and I would welcome letters from readers who agree or disagree with the reviews we publish. This would help me to keep my editorial judgment in step with readers. I would also welcome readers reviews of other products we may have missed - especially on the Spectrum - as not every software company has the sense to send review copies to FORMAT.

1992, the year of the Open European Market, the year the common market really becomes a market. But 1992 is also important in another way, as the 10th birthday of the Spectrum. So, what can we do to celebrate. Let's hear a few ideas from readers.

There seems to be a 'Battle of the Mice' hotting up in the SAM field. Blue Alpha fired the first round with the launch last month of their JOY-MOUSE. Samco then rushed through their own long awaited mouse. Blue Alpha then announce an introductory price cut to only £29.99, a saving of £10 over Samco's offering. At that point people started to bend my ears (on average two people per day for the last three weeks) with the question of the moment - which is better, and which do I buy.

Well, you will find a review of the JOY-MOUSE in this months issue, and if I can get a sample of the SAM MOUSE in time I will try to get that reviewed for next months FORMAT. As to which is best... That is a different question. In theory Samco's mouse should be

better because it uses parts of the ASIC at the heart of SAM. However I haven't used the SAM MOUSE as yet while I have used Blue Alpha's. My personal conclusion - if you only have a SAM wait until FORMAT reviews the Samco mouse (hopefully next month) before you decide. If on the other hand you own both a Spectrum and a SAM I would go for the JOY-MOUSE so you can use it with both machines. But, as I've said in the past, I prefer the keyboard everytime.

My thanks to all of you who, having got your SAM DEMO DISC, have phoned in to say how much you have enjoyed the contents. We have tried to get the disc out the same day envelopes arrived but a few have been held back because the senders forgot to put their membership number on the rear. If your's has not arrived after about 14 days then give us a ring between 2.30 and 5.30pm and we can check our list. I do have plans to put together another disc later in the year - provided enough people send in items we can use. In the meantime, we have now added the disc to our FRS page so anyone who is not eligible for a free disc can still obtain a copy.

And finally, something to look forward to in next months FORMAT. Carol Brooksbank has agreed to take on the impossible. Yes, at long last, the series many of you have been asking for since the year dot. An Introduction To Z80 Machine Code Programming. Strong men have quaked in their boots at the mere thought of this undertaking but I have faith in Carol and from what I've seen so far it's a series nobody should miss.

Bob Brenchley. Editor.

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# SHORT SPOT

By:- John Wase.

First this month is a little offering for the Spectrum/PLUS D. Stuart Hughes of Holywell reminds us of Bob Bates' contribution in the May edition of "FORMAT", concerning the PLUS D and games such as "Lords of Midnight", which is one of the all-time Spectrum classics and which takes a long time to play. It's therefore ideally suited to disc operation. He confirms Bob's comment: that if a disc system is configured without the printer interface being initialised, then the game will load and begin to play correctly. Unfortunately, the software periodically tries to do a screen dump to the old Sinclair printer, and hangs, presumably while waiting for some signal indicating that the printer has finished the dump. You can simulate this by using "COPY" when the PLUS D is connected. The only way out is to press the break key. However, if nothing is attached to the expansion port, the COPY command is ignored, and the program continues automatically.

The Sinclair book states that D6 on the expansion port is read as low if the printer is there and high if it isn't, and is used solely to check if the printer is connected. Could this suggest a solution to someone who understands machine code?

If the game can be made to work, the lack of printer control is no problem. Screen snapshots taken during the game can be loaded back later with the printer interface initialised: PAUSE 0 directly after the load prevents the screen being overwritten, and the screen can be snapshot printed as usual.

Well? How about it. Anyone take this any further?

Whilst this is still an ongoing

problem, then, Luca Alimandi has dropped me a postcard (which arrived just in time; this morning) all the way from Rome, Italy, with what might be a solution to problems encountered by a number of DISCiPLE and PLUS D users. Luca writes that if one wants to save only a block of the Spectrum 48K memory, and there is no possibility of returning to Basic, here's how to do it. Before loading the program, enter the following pokes for the DISCiPLE:-

```
POKE @65045,start
POKE @65054,length
```

or these for the PLUS D:-

```
POKE @278,start
POKE @287,length.
```

When the program is running, press the snapshot button and then key "3" to save the screen: the snap will be marked as SCREEN\$ in the directory, but you will have saved the desired code block. Luca suggests that this hint will be most useful for games hackers. Maybe this is so, Luca, but I can see lots of other uses for it, too. And thanks, also, for the P.S. - the PLUS D pokes were found by Maurizio Dordolo: please mention him if you publish these hints in "Short Spot". Many thanks, Maurizio.

Finally, Luca asks if UniDOS has the same hook codes as the DISCiPLE 3d. The answer is, essentially yes, Luca, though UniDOS has, of course, many more as well.

Talking of UniDOS, Nev Young has sent in a most useful letter, which spells out what is possibly common knowledge to the favoured few, but which is still not appreciated by many. Nev writes that if you are using a printer on SAM and you need to send

control characters to the printer, then you need to open a binary channel to the printer. This is not too bad if it is just printer setup data, but if, like me, you are mixing text and controls, then it is simpler to open another channel to the printer for binary:-

```
OPEN #3,"p" : REM TEXT CHANNEL
OPEN #4,"b" : REM BINARY CHANNEL.
```

Then you can mix the two in a single PRINT statement, for example:-

```
PRINT #4; CHR$ 14; #3; "WIDE PRINT; #4
; CHR$ 20; #3; "NARROW PRINT"
```

Pretty economical, isn't it. Nev also mentions that you can do the same using a Spectrum with Interface 1. This, of course, transmits through a serial interface. In addition, I should add that the combination of Spectrum with Discovery disc drive and parallel printer port uses exactly the same system: either will work with any Spectrum except the dreaded +3 or its +2a offspring, though the Spectrum is not quite so forgiving of omitted spaces as SAM. However, you can't get away with it with the DISCiPLE or the PLUS D as the POKE @6 command affects all printer channels.

Nev also includes a program fragment for SAM menus, which shows how a hierarchical menu system can be set up which uses the function keys to make the selections. Here it is...

```
10 MODE 3: CSIZE 8,8
20 LET mnu=1
30 DO
40 LET finish = 0: menu
50 LOOP UNTIL finish
60 STOP
70 DEF PROC menu
80 WINDOW
90 CLS : CLEAR #
100 PLOT 0,0: FATPIX 0: DRAW 0,173:
DRAW 511,0: DRAW 0,-173: DRAW -
511,0
110 WINDOW 10,50,5,15
120 IF mnu=1 THEN PRINT AT 1,1;"F0
Second menu"; TAB 1;"F1 Input o
rders"; TAB 1;"F2 Print invoice
s"; TAB 1;"F3 Print envelopes";
```

```
TAB 1;"F4. Print proof of posti
ng"; TAB 1;"F5 Print daybook";
TAB 1;"F6 Month end"; TAB 1;"F7
Change prices"; TAB 1;"F8 Cha
nge date"; TAB 1;"F9 Quit"
130 IF mnu=2 THEN PRINT AT 1,1;"F0
First menu"; TAB 1;"F1 Find ord
er"; TAB 1;"F2 Purchase"
140 WINDOW
150 PAUSE : LET key$=INKEY$
160 LET keycode= CODE key$ - 191
170 IF keycode < 1 OR keycode > 10 T
HEN GOTO 110
180 LET mnu=mnu
190 IF mnu = 1 THEN : ON keycode : L
ET mnu=2:orders:prtinv:prtenv:p
rtpro:prtdaybook:mthend:makepric
e:loaddate: LET finish = 1
200 IF mnu = 2 THEN : ON keycode: LE
T mnu=1:findit:purchase
210 LET mnu=mnu
220 CLEAR #
230 END PROC
```

This looks most professional, for Nev has used imbedded colours in the listing so that all the references to function keys in statements 120 and 130 are on a blue background, and are printed as such. The SAM instruction book is, as is often the case, vague on such a matter so I mention that to get this effect, press control and "p", then a number between zero and seven (in this case 1): this alters paper colour, displaying it in the dot in the cursor. Ink is similarly altered with control and "i". Dont forget to change back before continuing the listing.

Nev also includes a letter from Matthew Lynch, of Lesmahagow, Lanarkshire, Scotland, who has also sent it to me, so I'm going to put all his stuff together. Firstly, his letter has a marvellous heading: I would reproduce it for you if I didn't think poor Matthew might be bothered by superfluous mail for the rest of his life. Matthew tells us that he does this in "Flash", and transfers the graphics to his Citizen 120D printer. The results are pretty impressive.

Next he mentions a problem that Nev had featured in FORMAT issue 4:7 where

attempts were being made to use an interrupt routine previously written for the Spectrum on SAM, which didn't like it. Matthew mentions that he has written several of these routines himself, but has found that they will work only if assembled at an address under 32768. The best place he has found to store them is in the workspace area at the address 16384.

A further tip is a little program enabling you to read the length of the last file you loaded in. Sounds pretty pointless until you realise what Matthew was doing. He'd written a little Basic wordprocessor, and wanted to stop the cursor moving past the end of the text. His first attempts had involved searching the memory until he came to several blank lines, but the thing tended to stop before it came to the "Yours sincerely" bit where there was a space left for Matthew's signature, so that wasn't too hot. This little one-liner is the result.

```

5 REM SAMPROGRAM BY MATTHEW LYNCH
10 REM LINE 20 PUTS THE LENGTH OF T
  HE LAST FILE LOADED INTO "L"
15 REM FOR THIS FILE TO WORK IT MUS
  T BE A CODE FILE AND IT MUST BE
  LOADED WITH THE COMMAND "LOAD "F
  ILENAME" CODE", NOT "LOAD 9"
20 LET L=PEEK (19314)*16384 + DPEEK
  (19315)-32768

```

And here's another equally useful tip. Some people have had difficulty putting the directory of a disc into a string. Here's how to do it.

First you must open another stream, as the Coupé doesn't like playing with stream 16, the stream for RECORD/BLITZ. So, first do OPEN #6;"\$" (or your choice of stream). If you then enter the following magic line:-

```
RECORD TO A$: DIR #6;1: RECORD STOP
```

This will put a directory into the string A\$. This tip, incidentally, is also mentioned by Mr Sheppard of Southend-on-Sea.

And a final really quick quickie... To get rid of that flashing border

which SAM displays while the disc is loading, formatting or whatever, do DPOKE 0,0. Many thanks, Matthew.

"PRINT USING" has come to a halt for now. We can't, after all, go on forever. I must just mention that Mr. Jackson of Creigiau, Cardiff, has sent me further corrections to Robert Brady's list, and Mrs. Brady has sent a final corrected version of her son's program. Here it is:-

```

10000 DEF PROC usin num, decplac, tota
      llen
10010 LOCAL rnum, minus, decpointplac,
      realdecplac, n
10020 LET minus =(SGN num=-1), num=ABS
      num
10030 LET rnum=INT (num*10↑decplac+.5)
      , rnum=rnum/10↑decplac
10040 LET decpointplac=INSTR(STR$ rnum
      , ".")
10050 LET zz$=STR$ (rnum)
10060 IF NOT decpointplac THEN LET zz$
      =zz$+"."+STRING$(decplac, "0"):
      GO TO 10110
10070 LET realdecplac = LEN zz$ - decp
      ointplac
10080 FOR n=realdecplac+1 TO decplac:
      LET zz$=zz$+"0"
10090 next n
10100 LET zz$=zz$( TO LEN STR$ INT num
      +1+decplac)
10110 IF minus=i THEN LET zz$="-"+zz$
10120 LETzz$=STRING$(totalLEN-LEN zz$,
      " ") +zz$
10130 END PROC

```

Any mistakes now remaining are due to my typing.

I received from Andy Wright only yesterday a betatest copy of MasterBasic for SAM. MasterBasic is, as you might have expected, an addon which will add lots more commands in the same way that Beta Basic added more to the Spectrum. I shall report on this shortly; and will also be writing about it in Micro Computer Mart, which is going to feature the SAM for the next six months. The point is that it will, of course, add PRINT USING to SAM's vocabulary, in the same way that Beta Basic did for the Spectrum. Come on, folks, why do it the hard way...

Next, I ought to mention a little problem that has arisen with a SAM comment I quoted from Carol Brooksbank, who mentioned ("FORMAT" Vol. 4, p7, May '91), that KEYIN caused a recompilation and this caused programs to lose their way under certain circumstances. Alan Cox immediately wrote to ask just what she meant. Her answer is so interesting that I am repeating parts of it here.

Firstly, that "RECORD TO A\$(I)" is not implemented is not a bug - it is a sensible precaution, in case the instructions do not all result in strings of the same lengths. In Alan's program, they do, but this need not always be so. "RECORD TO B\$: LET A\$(I) =B\$" meets the case when it is appropriate to use an array and BLITZ A\$(I) works because if you already have an array, the strings must already be all of the same length.

Next, DELETE and KEYIN. In order for Basic to run as fast as possible, a preliminary pass is made through the program on RUN, and the address of each procedure and function is stored invisibly in every line which calls a procedure or uses a function: not the line number, but the memory address at which the procedure/function instructions start. This means that when the program is run and you get to a procedure, there is no need for search tables to find where to go to get the instructions, because the address is

right there in the Basic line. This makes SAMBasic very fast.

DELETE and KEYIN alter the length of the program and so all or parts of the Basic get moved around in memory, so the addresses of procedures or functions could well change. Therefore after either of these instructions has been executed, the pass is made again to re-enter the invisible addresses. The longer the program the more delay in executing the next command and even in quite a short program like Alan's, the delay can be quite damaging.

Many thanks, Carol.

And that's all for this month, folks. It was good to see so many of you at the "All Formats Fair" earlier in the month, and thank you for your kindly comments.

Please keep the contributions flowing, particularly Spectrum ones, of which I am currently short, to John Wase, Green Leys Cottage, Bishampton, Pershore, Worcs, WR10 2LX. And do please remember that tape or disc. Many thanks. See you next month.

Oh, one final note. I would like to end Short Spot each month with a little something to send you chuckling on your way. So how about sending me a few jokes, preferably computer or technology related, then we can always go out with a laugh.



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# TRANSPACK

Reviewed By:- Sergio di Lembo.

TRANSPACK, by LERM SOFTWARE, is a comprehensive and very easy to use tape-to-disc conversion package which includes seven utilities (TU.D, CU.6, TYPE, TRANSFER, BM, AHR, VR). Although TRANSPACK is primarily aimed at computer games players, its utilities will prove very useful for serious users too.

All the TRANSPACK utilities are completely unprotected in the latest version (TRANSPACK 2), and can be very quickly transferred from the original tape to ANY Spectrum disc system (DISCiPLE, PLUS D, +3, Opus, Wafadrive, Microdrive, Kempston interface...), by following the "beginner proof" instructions supplied.

Every converted program consists of a BASIC loader:-

```
10 CLEAR xxxxx: LOAD "pippo" CODE: R
ANDOMIZE USR YYYYY
```

and a code file.

Included in the package are two clear and comprehensive manuals (the smaller TU.D manual with 23 pages and the massive TRANSPACK specific manual 63 pages long) which not only explain how to use the utilities but also teach the principles of tape to disc conversions. The author uses straightforward language to explain the technical terms (tone leader, stack pointer, false headers, headerless blocks...) and even supplies step-by-step exercises to show you the ropes.

Several pages in the TRANSPACK specific manual are dedicated to +3, 48k, and 128k tape-to-disc conversions. There are also 50 detailed transfer examples. The instructions apply not only the +3

disc interface but to every Spectrum disc system.

TU.D (Tape Utility D) transfers normal speed and high speed blocks from tape to tape, eventually reducing the speed of the "turbo" blocks to the normal 1500 BAUDS for disc transfer or study.

CU.6 (Conversion Utility 6) transfers directly from tape to tape both 48k and 128k versions of programs protected by the most common security systems (Alkatraz, Speedlock and Bleepload). Some of those security systems do not allow you to back-up protected programs to tape or disc with the Multiface or with the Disciple/+D snapshot facility. CU.6 unprotects the programs, making loading procedures more reliable, less volume sensitive ..... and more SAM compatible. CU.6 can also save special tape versions of the unprotected programs, ready to be TRANSFERred onto disc.

TYPE makes the use of CU.6 simpler by allowing you to identify the protection system used for a program.

TRANSFER copies directly from tape to disc normal and headerless code blocks, with a maximum length of about 40k, allowing you to name or rename the files before saving. The syntax of the SAVE and VERIFY commands in TRANSFER's BASIC can be easily modified, making the program compatible with all Spectrum disc interfaces.

BM (Bytes Mover) produces small relocatable machine code routines which can move blocks of bytes within the Spectrum RAM, allowing you to load a code file with a high RAMTOP and to make room for a BASIC loader. Once loaded, the bytes are moved to their

original address by the BM routine, which can eventually lower the RAMTOP and jump to a specified address (for example the USR address of a game) without returning to BASIC.

AHR (Advanced Header Reader) can either read or create standard headers, allowing you to load from tape, and then save to disc, files which are too long to be handled by TRANSFER. AHR can also "chop off" a specified number of bytes (for example a screen) from a normal or headerless block of any length, eventually saving the remaining bytes in two code files. The smaller file will be loaded from disc into the screen and the bigger one will be loaded in high memory leaving plenty of room for the BASIC loader. Once both files are loaded, the smaller one will be moved to its original address by a previously prepared BM routine. This procedure allows complete tape-to-disc transfer of the dreaded code blocks with a start address of 16384 and a length of 49152 (the blocks which load into the screen), even with a disc system like Wafadrive, which itself uses 2k of Spectrum RAM.

VR (VAL creator - REM killer) includes two machine code routines which compact the long BASIC loaders, replacing every number with VAL "number" and removing all the REM statements.

Some knowledge of assembly language is obviously very useful to explore all the facilities offered by the TRANSPACK utilities, allowing the user to unprotect and transfer even the programs with non-standard security systems. People who, like me, are rather unfamiliar with machine code, can buy the three INFORMATION BOOKS which explain in detail how to transfer about 500 Spectrum 48k and 128k programs to disc. The more recent programs covered in INFORMATION BOOK 3 date back to 1988 (Cyberoid 1 and 2, Total Eclipse). I hope that LERM will continue to help Spectrum and SAM users by publishing new information books to keep this very useful suite of programs right up-to-date.

TRANSPACK is available from Lerm Software (see their advert in this issue) Priced at £11.99 (Information books 1-3, £2.50 each).

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# MasterBASIC

## Extended Basic For The SAM Coupé

Reviewed By:- Carol Brooksbank.

So All I can do in the space available for a review of MasterBasic is scratch the surface, tell you in detail about a sample handful of the commands to whet your appetite, and leave you to explore it to the full in your own time.

The new BASIC has to be merged with the DOS to make the file which is loaded when you boot up the DOS. It can be merged either with SAMDOS2 or MASTERDOS, and it requires ROM 2.0 or later. It is, of course, at its most powerful when used with MASTERDOS.

There are a number of extremely useful new editing facilities. One in particular I cannot now imagine being without which recalls the last instruction you typed. If you want to SAVE a program to several discs, one typing of the instructions is all that is needed. You can recall and re-execute them as often as you wish. What is more, you can recall the previous thing you typed and the one before that, to the limits of a 256 character buffer.

There are now keypresses for moving along a line from word to word, in either direction, and you can join or split program lines. You can search for and alter strings, including keywords, through all or part of a program, and either stop with the next line holding the reference displayed for editing, or have a list of all line numbers containing the reference sent to the screen or printer.

A line number Trace command, with the speed under the user's control is a great help in debugging, and the handling of the pre-compilation has been speeded up so much that the pause after RUN is virtually eliminated - even in a long program with lots of DEF PROCs and LABELs.

Data handling has been made much more sophisticated. There is a brilliantly fast SORT which will sort strings or data arrays, either irrespective of case or taking case into account. A program of my own which took 2.5 minutes to sort some data takes less than 15 seconds with MASTERBASIC. An EDIT command presents a whole string for editing - you no longer need to go back to the INPUT and type it all in again. Data arrays can be joined together or new strings added to a full array, provided all strings are the same length, and parts of strings or data arrays can be deleted.

There are commands for searching arrays and for string comparison. There is also USING\$, similar to BETA BASIC's PRINT USING, which should satisfy the most demanding of those engaging in the running debate in Short Spot.

An innovation which I have not yet fully mastered is interrupt driven sound. Sound instructions are transferred to a buffer and delivered to the sound chip on the interrupts, so the computer can be doing something else while the sound continues. It is quite eerie to LIST a program, draw some graphics and so on while the sound effects play happily on unaffected by whatever else you are doing. I have not yet mastered doing the same with music. My attempts led to a series of little croaks being played back, but the possibilities are very exciting when I finally get the hang of it. Nothing involving Sam's sound chip is ever easy!

In the world of graphics, you can now copy one complete screen to another, have extra UDGs, use a function to find the current screen address, use a faster version of PUT

or the original ROM version if the new one makes your program run too fast, combine PUT and GRAB when overlaying windows so that a simple keypress displays or removes the overlay, clear to black on white display, produce faster animation with POKE, and make much more flexible use of CSIZE. I love the ability to display parts of two screens at once, even though they may be in different modes. The user specifies at what line the display is to change from the first screen to the second. It is not possible to SAVE or DUMP the split screen because the two screen files remain quite separate.

Screen dumps to a printer are now much more flexible. Three different sizes of shaded dump, an unshaded one and a text dump are provided. The proportions of the dumps as they come are pretty good, and very versatile. Their position on the paper, size, and the relationship between width and height can all be changed, as can the portion of screen to be dumped.

Interrupt driven printing is now available, pound and hash characters are properly printed in listings, and there is a command for selecting serial or parallel printer output.

A new command allows you to hide procedures or library routines. Hidden lines cannot be listed and will not be saved with a program, but they are safe from NEW and LOAD. So if you have a number of library routines which you want to access in various programs they can be loaded at the start of the day and any program loaded later can access them.

There are now EXIT commands for making an orderly exit from FOR-NEXT and DO loops and procedures. A new TICS command, available only with the Sams fitted, allows very precise timing calculations.

DOS enhancements include commands for saving the MASTERBASIC/DOS file to disc, file compression, a faster alternative MERGE (though with some limitations so the original is still available), a faster DIR and a

facility for protecting auto-running code files so that MERGE will not stop the auto-run and allow them to be inspected.

With MASTERDOS, some of the syntax has been shortened by removing "TO", e.g. RENAME "prog", "newname". OPEN BLOCKS allows you to reserve buffers for any files which may be opened. This has eliminated a problem which had shown up with MASTERDOS where opening a new file caused very long programs to run amok and the only way round it had been to force another pre-compilation by using a dummy KEYIN which slowed the program down noticeably. OPEN BLOCKS reserves space for the file information so the program is not moved when a file is opened. MASTERDOS now also checks and does an automatic re-compilation if OPEN #, CLOSE #6 or CLEAR # still move the program because you opened more files than you reserved space for. Some other MASTERDOS commands have been extended, and there are improvements in the speed in RAMdisc handling.

Finally, there are commands for searching memory for a string with case-match on or off, and to reserve space in the system heap for your own short machine code routines. A bug in INKEY\$ #0 has been fixed, and there are a whole host of extra variables - XVARs - and new DVARs.

Although this is such a treasure trove of new BASIC commands and functions there are still one or two more I could think of which would be useful, the ability to SAVE blocks of lines to disc, for one. So I am very encouraged by Andy's mention in the handbook of possible future enhancements with upgrade privileges for existing customers.

Sam BASIC was always very good. Now it is even better. If you are a serious Sam user, you need MASTERBASIC.

MASTERBASIC is available, price £15.99, from Betasoft, 24, Wych Ave., Kings Heath, Birmingham, B14 6LQ.





# THOUGHT SPOT.

By:- Jeremy Cook.

**HEY YOU!**

to:-

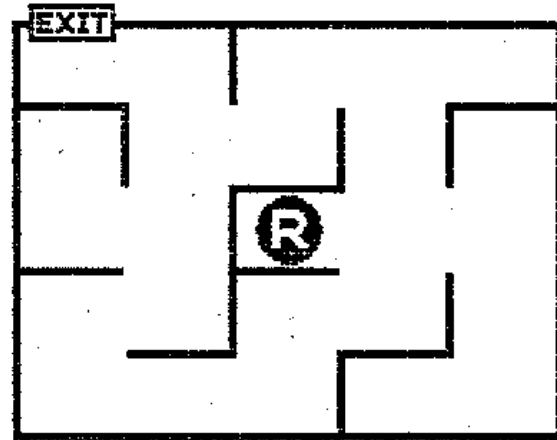
Now that I have your attention, I would like to say welcome to the best puzzle page in **FORMAT**. Lined up below are a few problems of varying type and difficulty (I hope), which should occupy you pleasantly for a minute or three.

Jeremy Cook (Thought Spot),  
6, Burgoyne Road,  
Sunbury-on-Thames,  
Middlesex, TW16 7PW.

Note:- will only be returned if an SAE is enclosed).

Also below is the prize puzzle, which should by now need no introduction. You will of course recall that the winner is awarded **ONE YEARS FREE SUBSCRIPTION to FORMAT!**

As I mentioned last month, owing to the postal troubles that caused this column's absence, I received nothing for puzzles 4 and 5. For puzzle 3 I received entries from W Lane, David Stockford, and Ettrick Thomson (which they need not send in again), plus a letter from Alan Cox. Because of this small response I am repeating puzzle 3 below, I will re-use puzzles 4 and 5 sometime soon.



@So come on; pull your socks up; get a move on; get your act together; quit stalling; I want some entries, otherwise the prize puzzle may die out. If the problems are too difficult, take too long or whatever, then tell me; don't suffer in silence.

Even if you can't do all of any particular puzzle, I am still interested in what you have done and what ideas you have.

And now for something slightly different and just for fun.

### PRIZE PUZZLE No.9 RETURN OF THE ROBOT

### FRONT AND BACK

Write a program to get a robot out of any given maze, from any starting position. The robot does not have a plan of the maze, but is able to detect where the walls and exits are. It is also able to memorize where it has been. Your program should be able to cope with almost any maze, but in particular the one shown below.

Put three letters, in the same order, at the beginning and end of each of these groups of letters to form words. For example, given ERGRO, the answer would be UNDERGROUND.

1. ERTAINM
2. ISCOVE
3. RAIN
4. MEN
5. TO

Send your program, preferably on disc or tape, in by 1st September 1991

### QUICKIES

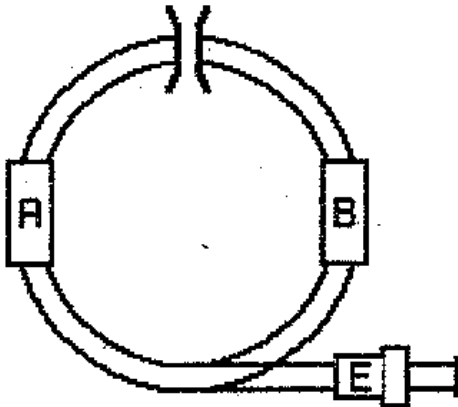
1. If one costs ten pence, twelve costs twenty pence, and 342 costs

thirty pence, how much will 999 cost? And what are the objects involved anyway?

2. What is the sum of all the numbers from 1 to 2000?
3. What everyday word in the English language is most often pronounced incorrectly?
4. If a clock takes two seconds to strike two o'clock, how long does it take to strike three o'clock?
5. If a carpet has an area of 120 square feet and a diagonal measuring exactly 17 feet, what are the dimensions of the carpet?

#### ROLL REVERSAL

A circular railway line has a bridge crossing it and a siding leading from it. An engine, E, and coaches A,B are positioned as shown. The engine is able to pass under the bridge, but neither coach can. The problem is to switch the positions of the two coaches, finishing with the engine back in the siding. How can this be done?



(Taken from 'Puzzles and Teasers for Everyone', compiled by Darryl Francis).

That ends the ninth Thought Spot. Thanks for the few letters and entries I have had recently. Please, I mean PLEASE try the prize puzzles and send in your solutions, because I get very despondent and disheartened when nothing arrives. If you have anything to say I am always happy to read your comments, so drop me a line. Bye.

#### SOLUTIONS TO JUNE'S PUZZLES

Anagrams:- orientating, mountaineer, antiseptic, catalogue.

Rebus:- Robin Hood, crossroads, feel on top of the world, half time, painting by numbers

Letter sum:- 96233  
62513  
=====  
158746

#### Cryptogram:-

"On this particular Thursday, something was moving quietly through the ionosphere many miles above the surface of the planet; several somethings in fact, several dozen huge yellow chunky slablike somethings, huge as office blocks, silent as birds." - From 'The Hitch Hiker's Guide to the Galaxy' by Douglas Adams.

The code was BLAMEWORTHY, followed by the rest of the alphabet in order (ie. B for A, L for C, etc).

> **FRED** <

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# DECISION TABLES FOR PROGRAM DESIGN

By:- Jacob Minidor.

To demonstrate the power of this tool in specifying and checking specifications, let's continue with our adventure we started last month, which has grown to contain lots of rooms, and we want to decide on how to act and respond in a certain room. Now the hero is located in a room with a door which can be safely opened only if the hero has with him: THE GREEN KEY, A LIT LAMP and he has killed an OGRE in the previous room (room no. 56). The fact that he carries anything with him is maintained in a table, in which the key has entry number 10, and the lamp has entry #7. The state of the lamp - on/off - depends on a variable lamp\$ with values "on"/"off". The position of the OGRE is maintained in a table - ENEMY - which handles the location and lives of our hero's enemies, each entry contains the enemy name, its current location and an indication of him being live or dead. The table dimensions are 30 X 3 (that is, there are 30 different enemies).

Now, we are not only interested in the special situation in which our hero has killed the OGRE and has with him the GREEN KEY as well as a lit lamp (in that case the door will be opened), but we also want to know how to react if certain conditions are not

fulfilled (i.e. the OGRE is still alive or the key is not being carried). For that purpose we specify that if the OGRE is still alive then any attempt to open the door, no matter what the key's state is, will cause the OGRE to appear in the room. If he's dead then not having the key will cause a wind to: a) blow out the lamp - if it is being carried and is lit, or b) cause the lamp to be dropped and spill the oil - if it's being carried but not lit, or c) move our hero to room 56 if the lamp is not being carried. Having the key and an unlit lamp should cause an affect similar to b above, but if the lamp is missing then the GREEN KEY should be transported back to its original location (room 7) - we still assume that the OGRE is dead.

The specifications seems detailed enough and complete? let's check it by constructing a decision table.

First we build the auxiliary table: we have three parameters which affect our decisions - the OGRE state, the GREEN KEY state and the lamp state. The auxiliary table should look like that in Fig 1. While the decision table will look like the one given in Fig 2.

No.	Parameter Name	Values	Representative Values	Possibilities (number of)	Multiplier
1	OGRE O	Live Dead	0 1	2	1
2	Lamp L	not carried carried & off carried & on	0 1 2	3	(2*1)=2
3	Green Key GK	not carried carried	0 1	2	(3*2)=6

Fig 1.

GK	L	O	Actn. 1	Actn. 2	Actn. 3	Actn. 4	Actn. 5	Actn. 6
0	0	0					X	
0	0	1						
0	1	0				X		
0	1	1						
0	2	0						
0	2	1			X			
1	0	0						
1	0	1						X
1	1	0						
1	1	1				X		
1	2	0						
1	2	1	X					

Action 1 is: OPEN DOOR  
Action 2 is: OGRE APPEARS IN ROOM 57  
Action 3 is: BLOW OUT LAMP  
Action 4 is: DROP LAMP AND SPILL OIL  
Action 5 is: TRANSPORT HERO TO ROOM 56  
Action 6 is: TRANSPORT GREEN KEY TO ROOM 7

Fig 2.

Note that if we used the conventional way we should split the lamp parameters into two conditions: Lamp-being-carried and lamp-on-off, causing the table to contain 16 (instead of 12) different cases.

Now, it seems as if I forgot to fill part of the table: those cases having value 0 for O (that is the OGRE is alive) should have action to assigned to them, isn't it? not quite! the specification said that action 2 should be taken if the OGRE is alive and the key state doesn't matter, but nothing is said about the lamp's state. If we agree that the lamp state does not matter either, then we assign action 2 to all the cases which had not been treated by the table.

When implementing the table in a program, we could use the previously described approach (i.e. first converting all the actual values into representative values and then using the formula for J), or we could use somewhat different way of calculating the value of J - the step-by-step way: in this approach whenever we find the representative value of a parameter, we multiply this value by the appropriate multiplier and add the result to J.

The calculation of J start by assigning 1 to J.

As a demonstration to this approach the implementation in BASIC (not any particular Basic) will look like something like the following routines:-

```

.
.
.
100 LET J = 1
.
.
199 REM handling the contribution of
the parameter OGRE value to J
200 FOR I = 1 TO 30
210 IF ENEMY (I,1) = "OGRE" THEN IF E
NEMY (I,3)=1 THEN LET J=J+1: GOTO
300
220 NEXT I
299 REM handling the contribution of
the parameter lamp value to J
300 IF object (7) = 1 AND lamp$="off"
THEN LET J=J+2
310 IF object (7) = 1 AND lamp$="on"
THEN LET J=J+4
399 REM handling contribution of the
parameter GREEN KEY value to J
400 IF object (10) =1 THEN LET J=J+6
.
.
499 REM just a trick. all odd cases a
re treated the same - action 2
500 IF J = 2*INT(J/2) THEN GOSUB 8000
+ J*100
600 GOTO 700
610 GOSUB 8000
.
8000 REM odd cases - action 2
8010 LET ENEMY (I,2)=57
8020 PRINT "THE OGRE ENTERS THE ROOM R
EADY TO FIGHT..."
8030 RETURN
8199 REM case # 2. action 5
8200 PRINT "YOU ARE BEING TRANSPORTED
TO ANOTHER ROOM"
8210 LET room=56
8220 RETURN
.
.
.
etc.

No more room this month but in next
months article I want to start looking
at State Transition Tables and
Diagrams, something more to get your
teeth into.

```

# A PAIR OF RAYS

JOYSTICKS FROM SPECTRA VIDEO - DESIGNED FOR THE YEAR 2000.

Reviewed By:- Robert Cull.

In April this year, I attended the European Computer Trade show in London. It was an Aladdin's cave, full of many different computers, monitors, mice, joysticks etc. More than enough to keep anyone green with envy for the whole day.

Nearing the end of my stay, a pair of joysticks caught my eye on the SPECTRA VIDEO stand. These two joysticks were called the STING-RAY and the MANTA-RAY. I had a little fiddle with them and became quite attached to them, particularly the MANTA-RAY. At the time of the show they were so new that the only samples of the joysticks were the ones on the stand. After a long chat (and with a bit of helpful persuasion by our illustrious editor) I finally persuaded SPECTRA VIDEO to send me review samples of the joysticks! Bob said I had to earn my trip to London some way, and writing the review was as good a way as any.

One morning, a few weeks later, I woke up to a most pleasant surprise, the samples had arrived. I instantly ripped the box apart and plugged them into the nearest computer I could find which happened to be my Spectrum +2. After taking them to school showing friends and family and asking them what they thought of each joystick (some criticised and some complimented) I have come up with what I hope is a full and truthful review on them. If you're out to buy a new joystick in the near future this is certainly an article you should read. I mean what's worse than getting home with your new joystick and finding that it doesn't fit your grip, doesn't fit your personal requirements, costs a bomb and you've gone and lost the receipt! So hold onto your seat and prepare for the best review in the WORLD!

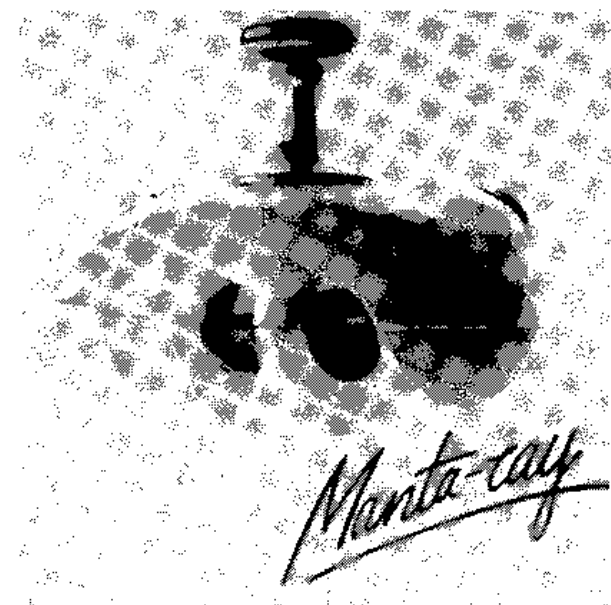


The STING-RAY has a bright blue ray-gun shaped body, with a large black knob on top for you to wiggle. It looks very Hi-Tech and futuristic. Three fire buttons are provided, one trigger action button on the front and two red buttons on the rear. The two little red buttons at the back end are in a very awkward position. I watched some friends use the joystick and they did not use these fire buttons at all. There does not seem to be any reason for their presence. Although the auto-fire switch is in a fairly good position the ON and OFF should be marked to avoid confusion.

The joystick mechanism uses the now almost standard micro switches. They give a nice positive click as they operate. I found that the STING-RAY was not very comfortable to use at all. The actual joystick itself (this is the big mushroom shaped knob on the

top) is to bulky and spoils the aerodynamic look of it. It would be much better if they miniaturized it and got rid of the top of the mushroom, you could use your thumb to wiggle it about instead of thumb and fingers. However I recognize that this is a personal opinion, I know that Bob Brenchley thinks the Sting-Ray is fantastic.

Out of ten, most people would give it 5. In my opinion, this mark is generous! The box is very attractive and tempting but do remember the old saying don't judge a book by it's cover!



Now, the most widely noticed point about the MANTA-RAY is, that it is amazingly comfortable to hold. The photo just can't convey the real shape, you have to hold one to feel how well designed it is.

It worked just great on every computer I tried it on, these included: Spectrum, Sam, Amiga, ST and Commodore Plus 4. Everyone I asked said they preferred the MANTA-RAY rather than the STING-RAY.

As pointed out for the STING-RAY, I think the joystick knob itself needs miniaturizing so that you can use your thumb to move it around. The fire buttons are in a perfect position to use and each one fits the tip of your

finger exactly!

The MANTA-RAY is really only usable with the moulded base in the left hand and the joystick in the right hand. If you normally use joysticks the other way around you will have problems with this one. However the majority of people I asked gave the MANTA-RAY 9 out of 10 and I can highly recommend this one to FORMAT readers.

Given the choice, and having to part with my own hard earned money, I would go for the MANTA-RAY every time. However I found that in the glossy computer magazines they seem to advertise the STING-RAY, never the MANTA-RAY, I wonder why this is.

The STING-RAY retails for £14.95 with the autofire version costing £15.95. The MANTA-RAY is priced at £12.99 (£14.99 with auto-fire option). For details of your nearest stockist contact Spectravideo on 081 900 0024.

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## SOFTWARE FOR THE SAM COUPÉ

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# SUMMER '91 CHARITY MEMBERSHIP DRIVE

It has been two months now since we first started our Summer'91 Membership drive and I must say how disappointed I am at the lack of response from you all.

I have been here as Membership Secretary now for five months and have seen how much hard work goes into running INDUG and into writing, editing and sending out FORMAT to all you enthusiastic readers. Well, lets see a little more of that enthusiasm - helping INDUG to grow. We cannot do it without your support. With your help in attracting new members you help us to cut down on advertising costs and we don't have to fork out extortionate amounts of cash on advertising in expensive glossy magazines. That way we all benefit and your subscription fees can be kept to a minimum.

I do have a few ideas for you though which may help you to help us. How about putting a personal advert in one of the free local papers in your area, asking them to contact you if they own Spectrum or Sam. These adverts are usually free. Then having made contact you can pass on a copy of the form printed in the centrefold of the May issue of FORMAT. Or you can nip down to your local supermarket and write your name and telephone number on a card and put it up on the notice board, most supermarkets have them and the cards often stay up for a couple of weeks. There's loads of other things you could do. Look at the notice boards at your local library, club, school, your place of employment, all are good places to put up contact notes. It wouldn't take up much of your time and you may well make lots of new friends.

We do need you to work with us, you are all members of a club which, from

the many letters we receive, I know gives you a great deal of pleasure. Obviously, if we do not get any response from this plea then it really won't be worth carrying on with this membership drive. I would like to thank however, all the members that do their little bit towards helping us. There are a handful of you out there who have been conscientious and have contributed already towards the growth of INDUG, let us hope others will follow your example.

So come on, you've got no excuse now, I've supplied you with a few ideas of how to get in contact with potential new members, if you need any more copies of the centre fold from vol 4 no 9 that gives you details of the Summer'91 Membership Drive then give me a ring and I will send some on to you, I really would like to hear from you. Even without using the ideas I have given you I am sure that you all know someone who uses a Spectrum or Sam and isn't already a member. Well **NOW IS THE TIME** to tell them how much they would benefit from receiving FORMAT every month.

I'm relying on you now. By the end of July, I want to see a nice big lump sum in the Building Society to hand over to a deserving charity, and my desk covered with new subscriptions. Don't worry I can take the extra work on now I've nearly got Bob organized.

Remember. for every new member introduced on the special form we put £1 into that special account. At the end of September we draw a winner from those who have done the introducing, that person will nominate the charity the money goes to and will also receive a LIFE TIME subscription.

Jenny Bundock. Membership Secretary.

# SAM MasterBASIC

It's here! The program that gives your Coupé a host of new and extended commands and functions for Sound, Graphics, Editing, File compression, Data-handling and Printing!

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The program requires ROM 20 or later, and SAMDOS or MasterDOS. It combines with DOS to give a convenient BOOTable file. The new features are fully explained in a 50-page manual, and the disk includes example programs.

**MasterBASIC** costs just £15.99 inclusive of postage and packing. (£16.50 in Europe, £17.00 elsewhere.)

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# SAM'S PUBLIC

## MONTHLY LOOK AT PUBLIC DOMAIN SOFTWARE FOR THE SAM COUPE

By:- Brent Stevens.

Exams are over at last, so it's down to business, and writing more of these editorials.

Firstly some good news. The SCPDSA has received over 2000 subscriptions, and around 1800 orders have been processed as well. By the time you read this, the SCPDSA will be expanding into other areas, such as offering very high quality formatted discs, at low prices. More details nearer the time, so don't expect any replies to enquiries yet. T-shirts will also be available, and details will be in issue 2 of SAMsational Software - the SCPDSA's quarterly catalogue. Speaking of which:

In answer to many people's letters, Issue 2 of SAMsational Software will be sent out from July 10 onwards in batches of around 250-500 each day for a week. If you have subscribed to the SCPDSA, you do NOT have to re-subscribe. You get issues 2 and 3 as part of the subscription (good value eh!). If you have not already sent of your subscription then you will find a special form at the end of this article, this will save you 50p of the normal subscription rate of £2.

Any subscriptions recieved from June 20 onwards will have been held for issue 2 as the first subscription issue, followed by issues 3 and 4 at three month intervals. This will include subscriptions received at the London All Formats Show on June 22, probably over a long time before you read this.

Just a short note correcting Ken Elston's review on the Sampler featured in the May issue of FORMAT. The sound quality produced from the samples is in fact double the resolution of an Amiga. The Sampler plays 8-bit samples, whereas the Amiga

can only play 4 bits due to the 4 channel sound chip. Perhaps an Archemedies would make a better comparason with 16 channels, but the Masters Of Magic are working on the equivalent of a 24-bit sample, by overlaying 3 samples. More details next month (I hope).

The Edwin Blink samples are software driven, so require no extra hardware, and play 4 bits. By not having the Sampler plugged in, you cannot hear the samples, unless you have specially written your own machine code playback routine, like Edwin Blink. His future demos will not be created on the Sampler, but on his own custom made hardware, very similar in design. He will not be producing new demos for quite some time, as he is working on an assembler (not another!), but look out for the Blink Disc 2 review next month. There are some other samples floating around at the moment, but these are done on a 1 channel sampler, using the BEEP controls, rather than the sound chip. Some are passable, but others should be avoided. When I get details of exactly what is available, I will clear the mist.

Now the bad news. Due to extreme shortage of personal free time, the animation demos will have to wait until next month. More serious engagements have to take priority up to June 20, and even now, I am writing this 2 days late at 0:41am to get it completed for press. The other reason, is that I am still waiting for some of them to be finished and sent.

Next we come to Sam Supplement, edited by Dave Tonks. There are 8 Supplement discs available at present, all of which feature a good mix of simple small programs. They are ideal for anyone wanting to get hold of the odd utility program here and there.

Also offered, is an informative editorial section, letters page, adverts section, and a help section. This part forms what I could only describe as an invaluable data source for getting you over the rough patches of your programming or hardware control.

Brian Mumford is the man to get in touch with, as he acts as distributor when he isn't busy doing something for the well known Spectrum Discovery Club (SDC). There is a supplement taster disc available, but this is not nearly as well put together as each supplement issue.

Sadly, the downside of the supplement discs, is that there is no one item that stands out on the discs, but apart from that, the discs are well presented, and executed, and worth getting hold of. I also can't figure out why there has never been a mention of the SCPDSA in the news sections, or show reports. Surely all at Supplement heard the SCPDSA demo disc music blaring out on our 12ft. stand on several occasions at the All Formats Shows?

FRED will shortly be bringing out a double issue (11 and 12) with a program that allows music to be played while programming, with no apparant loss of speed. A few other great programs are lined up (so I am told), so with any luck there will be a review next month.

As promised, here's the news on FRED 10, out a few weeks ago. You could have guessed it. Another well presented high quality Disc magazine, with reviews, news and Freviews! (not a spelling mistake Bob).

A selection of screens start this disc off, followed by 2 well written simple basic games. Home World is an addictive game, where you have to move around the screen avoiding the "killer" robots. The game is based in the year 2012, and there is a small story about you being chased, etc., but with that aside, the game is worth trying out. Press S to start, with the

immediate surrounding keys as directions for the player to move in. I spent ages working out that one.

The second game is called STOM. It is a mind-games like variant, which requires you to flip over colour tiles, against a time limit, turning the whole grid of tiles to one colour. But beware! by moving over the same tile twice, causes it to flip again to the old colour.

The encounters series is continued with Zebedee Green, Bob's favourite green alien!!!(You're NOT going to edit that out [who me? edit things out! well only when articles get to long for the space available. Ed.]), and so is the ever popular Machine code/Assembly language tutorial.

There's an IQ test, which seems to think my IQ is 9185! Perhaps something went slightly wrong in the calculation, but then again it admits that there were not enough tests for a real IQ to be measured.

A small error I made last time concerning INSERT. Issue 1 (1000 POKEs) is on FRED 9, and issue 2 (500 more POKEs) is on FRED 10.

FRED 10 is an SCPDSA AWARD WINNER, and at only £1.25 what have you got to loose. Order code is M-FRED010.

Encelladus issue 4 is out at last. Priced at £3.99, this disc is beginning to seem just a little too highly priced for what it offers.

However, there is still a lot to offer. There is the now much improved magazine section, with reader's letters, etc. The quantity of text is quite large, but mainly filled up with anecdotes about Coupé related items. There's also an abundance of demos and utilities:

SQUEEZE will distort a screen, so that it fits into a semi circle. TILF, tilts a screen loaded in, upwards. ROMAN TEXT provides very large Roman font characters for use in your program. POINTER is a mackine code

program that lets you move a pointer around the screen, and select an item, returning control to the BASIC program (i.e. allowing options to be selected, or other things to happen), Disc interrogator displays all files on a disc, even if they are protected or hidden. It also displays the file type, and code information on each file, and lets you edit the type.

The Complete Guide To SAM BASIC part 2 (CGTSG 2) is available on this disc, with a good rundown of some BASIC commands. This tutorial is particularly useful if you find that there is some command niggling you, and you just wouldn't know what to do.

Palette allows screens to have palettes and line interrupts to be edited, and last, is a STAR WARS screen demo, as seen in FASTLINE. There are 1 or 2 more programs on the disc, so find out yourself what they are by buying a copy. Price is £3.99, order code is M-RELI004, and it is an SCPDSA AWARD WINNER!

That's all for this month. I hope BOB has some space spare in next month's FORMAT, because I am expecting quite a lot of new discs to come my way, especially with the release of issue 2 of SAMSational Software.

Enquiries to Hannah Nieuwoudt at the SCPDSA address. If you do expect a reply, please enclose an SAE. We get so much mail, and if we were to reply to every letter ourselves, we would be broke, and probably nearing completion of the last letter in 2012! Thanks for your support.

#### ADDRESSES :-

##### SAM SUPPLEMENT:-

B.D.Mumford,  
57 St. Saviours Road,  
West Croydon,  
Surrey, CR0 2XE.

##### SCPDSA:-

B.C.Stevens (or Hannah Nieuwoudt),  
42 Eaton Drive,  
Kingston Upon Thames,  
Surrey, KT2 7QT,

STOP PRESS. FRED Issue 11 has just come out, but I will only be getting a copy tomorrow, which is no good really, as I need a copy right now for review! Never mind, I am sure you can last out the wait. Also, did you know the TWEETY demo on FRED 10 has a game? Press FIRE on your joystick, and shoot the tweetybirds down. ESCape resets the score. Issue 9 of SAM Supplement is out (review next month), and so are some of the film demos.

---

## S.C.P.D.S.A. SUBSCRIPTION

Sam Coupé Public Domain Software Association.

I am interested in finding out more about PD software, so send the free demo disc, and catalogue, as soon as possible. I have enclosed my payment for £1.50. (EEC add £1, Rest of World, add £1.50)

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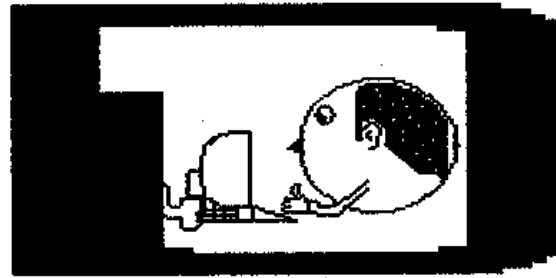
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---

# S



# oftware

## UNIDOS

**UNIDOS** The incredible new DOS from Steve Warr for the PLUS D and DISCIPLE. Same DOS file for both systems. Random files. Sub directories. Hundreds of files on one disc. Hidden files. Protected files. Copy any file of any length without resetting. Incredibly versatile screen dump routines. Error trapping. Many more features. State if ROM for PLUS D or DISCIPLE, disk size and number of tracks required when ordering. (PLUS D, 3.5 Inch 80T will be sent otherwise)

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# UNIDOS POKER

## A HACKER'S TOOLKIT

Part 2.

By:- Peter Harris.

Last month I dealt with the first two parts of this program for the new Uni-DOS system produced by SD Software.

This month we come to the final section, one for the more advanced user. This allows you to examine or change the snapshot register values and to load/save parts of the snapshot as CODE-files, absolutely essential if you want to alter part of a snapshot, for example to convert a multiload game to disc.

### Listing 3

```
50 LET com=10
142 FOR x=2 TO 4
144 IF x$(x)="=" THEN LET sub=3000: GOTO 200
146 NEXT x
260 DATA "ON",-1300,"OFF",-1400,"HELP",-2000,"LOAD",4000,"SAVE",5000
270 DATA "ABCDEHLFIR"
271 DATA 24,12
272 DATA 16,8
273 DATA 15,7
274 DATA 14,6
275 DATA 13,5
276 DATA 18,10
277 DATA 17,9
278 DATA 23,11
279 DATA 20,0
280 DATA 22,0
290 DATA "AFHLDEBCIXIYPC"
291 DATA 23,11
292 DATA 17,9
293 DATA 13,5
294 DATA 15,7
295 DATA 3,0
296 DATA 1,0
297 DATA 25,0
1040 LET h$="0123456789ABCDEF"
1050 PRINT "PC=";; LET r=25: GOSUB 1500
1060 LET x=sp+16389
1070 LET x1=INT (x/256): LET x2=x-256*x1
1080 PRINT "SP=";; GOSUB 1510
1090 LET is=INT (CODE r$(21)/4)
1100 LET on=(2*INT (is/2)<>is)
1110 PRINT "'INTERRUPTS ";("ON " AND on);("OFF" AND NOT on)''
1120 RESTORE 290: READ x$
1130 FOR f=1 TO 12 STEP 2
1140 PRINT x$(f TO f+1);"=";
1150 READ r: GOSUB 1500
1160 READ r: IF NOT r THEN GOTO 1190
1170 PRINT x$(f TO f+1);"='";
1180 GOSUB 1500
1190 NEXT f
1200 LET x1=0: LET x2=CODE r$(20)
1210 PRINT "'I=#";: GOSUB 1520
1220 LET x2=CODE r$(22)
1230 PRINT "R=#";: GOSUB 1520
1240 PRINT AT 19,2;"Type 'HELP' for Instructions"
1250 RETURN
1300 REM *****
1301 REM * ON *
1302 REM *****
1310 IF on THEN RETURN
1320 LET is=CODE r$(21)+4
1330 LET r$(21)=CHR$ is: GOTO 3200
1400 REM *****
1401 REM * OFF *
1402 REM *****
1410 IF NOT on THEN RETURN
1420 LET is=CODE r$(21)-4
1430 LET r$(21)=CHR$ is: GOTO 3200
1500 LET x1=CODE r$(r+1): LET x2=CODE r$(r)
1510 LET x=x1: GOSUB 1600
1520 LET x=x2: GOSUB 1610
1530 PRINT "/" ; x1*256+x2, : RETURN
1600 PRINT "#";
1610 LET hi=INT (x/16): LET lo=x-16*hi
1620 PRINT h$(hi+1);h$(lo+1);: RETURN
2005 CLS
2015 PRINT
2080 PRINT #1;TAB 10;"Press a Key"
2090 PAUSE 0: CLS
2100 PRINT TAB 9; BRIGHT 1; INK 1;" INSTRUCTIONS "
2110 PRINT "'Type:"
2140 PRINT "' Register=value"
2150 PRINT " to alter a register's value,"" Eg. A=127, HL'=#FFFF"
2160 PRINT " NB The stack pointer,
```

```

SP"" cannot be altered to prevent"" the file being corrupted
2170 PRINT " ON or OFF"" to alter the interrupt state."
2180 PRINT " SAVE ""name",start,length"" to save part of the snapshot"" to disc as a CODE file."
2190 PRINT " LOAD ""name",start"" to replace part of the snapshot"" with CODE from disc."
2200 PRINT #1;TAB 10;"Press a Key"
2210 PAUSE 0:CLS
2220 LET ls=1:RETURN
3000 REM *****
3001 REM * Change a Register *
3002 REM *****
3010 LET alt=(x$(x-1)='')
3020 LET c$=x$( TO x-1-alt)
3030 LET rp=LEN c$-1
3040 IF c$="" OR rp>2 THEN RETURN
3050 LET bas=270+20*rp
3060 RESTORE bas:READ s$
3070 FOR f=1 TO LEN s$ STEP rp+1
3080 IF c$<>s$(f TO f+rp) THEN NEXT f:RETURN
3090 RESTORE bas+(f+rp)/(rp+1)
3100 READ r:IF alt THEN READ r
3110 IF NOT r THEN RETURN
3120 LET x$=x$(x+1 TO )
3130 LET m$="Invalid Value"
3140 LET v1=0:LET v2=255+65280*rp
3150 GOSUB 8600:IF m$<>"" OR x$<>"" THEN RETURN
3160 LET hi=INT (nm/256):LET lo=nm-256*hi
3170 LET r$(r)=CHR$ lo
3180 IF rp THEN LET r$(r+1)=CHR$ hi
3190 IF r>20 THEN GOTO 3250
3200 REM *****
3201 REM * Update Registers *
3202 REM *****
3210 POINT #4,pos+220
3220 PRINT #4;r$( TO 20);
3230 OUT #4:LET ls=1:RETURN
3250 POINT #5,sp
3260 PRINT #5;r$(21 TO );
3270 LET ls=1:RETURN
4000 REM *****
4001 REM * LOAD *
4002 REM *****
4010 GOSUB 8900:LET add=0
4020 IF m$<>"" THEN RETURN
4030 IF x$="" THEN GOTO 4090
4040 LET m$="Invalid Address"
4050 LET v1=16384:LET v2=65536
4060 GOSUB 8800:GOSUB 8600
4070 IF m$<>"" OR x$<>"" THEN RETURN
4080 LET add=nm
4090 LET ret=4110:LET err=141
4100 LOAD dd;f$CODE 1,1
4110 LET ret=4220
4120 IF err=140 THEN LET m$="Not a Code File"
4130 IF err=141 THEN LET m$=""
4140 IF m$<>"" THEN GOTO ret
4150 OPEN #6;dd;f$IN
4160 POINT #6,2
4170 LET nm=CODE INKEY$#6+256*CODE INKEY$#6
4180 IF NOT add THEN LET add=CODE INKEY$#6+256*CODE INKEY$#6
4190 IF add<16384 OR add+nm>65536 THEN LET m$="Invalid Address":GOTO ret
4200 POINT #5,add-16383:POINT #6,10
4210 MOVE #6 TO #5
4220 CLOSE #*6:LET ret=70
4230 LET ls=1:GOTO 8390
5000 REM *****
5001 REM * SAVE *
5002 REM *****
5010 GOSUB 8900
5020 IF m$<>"" THEN RETURN
5030 LET v1=16384:LET v2=65536
5040 GOSUB 8800:GOSUB 8600
5050 IF m$<>"" THEN RETURN
5060 LET add=nm
5070 LET v1=1:LET v2=65536-add
5080 GOSUB 8800:GOSUB 8600
5090 IF m$<>"" OR x$<>"" THEN RETURN
5100 LET ret=5200:LET err=153
5110 IF NOT (AT dd;f$) THEN GOTO 5160
5120 PRINT #1;"File Exists, Overwrite? (y/n)":BEEP .1,20
5130 IF INKEY$="N" THEN GOTO ret
5140 IF INKEY$<>"Y" THEN GOTO 5130
5150 INPUT ""
5160 SAVE OVER dd;f$CODE add,nm
5170 OPEN #6;dd;f$RND
5180 POINT #5,add-16383:POINT #6,10
5190 MOVE #5 TO #6
5200 CLOSE #*6:LET ret=70
5210 IF err=153 THEN LET m$=""
5220 RETURN
8381 REM *****
8382 REM * Get Snapshot Data *
8383 REM *****
8390 POINT #4,pos+220
8400 LET r$=(IN #4,20)
8410 LET sp=CODE INKEY$#4+256*CODE INKEY$#4-16383
8420 POINT #5,sp
8430 LET r$=r$(IN #5,6)
8440 RETURN
8900 LET m$="Invalid Name"

```

```

8910 IF x$(1)<>" " THEN RETURN
8920 FOR x=2 TO LEN x$
8930 IF x$(x)<>" " THEN NEXT x: RETURN
      N
8940 LET f$=x$(2 TO x-1): LET m$=""
8950 LET x$=x$(x+1 TO ): RETURN


```

treat the snapshot as if it were currently in memory so for example you could save the screen picture using:-

SAVE "file",#4000,#1B00

Instructions are given in the program so I'll just mention that register values are displayed and can be altered in both decimal and hexadecimal. Also when using the 'LOAD' and 'SAVE' commands you can

Given this program and a DISCiPLE or PLUS D fitted with Uni-DOS you have one of the most powerful hacking tools available for the Spectrum. Whatever level you choose to go to, it is a powerful program and I hope you will all find it useful.

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# JOY-MOUSE

## A Mouse For Your Computer.

Reviewed By:- Carol Brooksbank.

If you have more than one computer of different makes, and you like mouse control, you will normally have to have one mouse per computer. A house full of mice may make the cat ecstatic, but it is a little hard on the computer owner's bank balance.

This new mouse from Blue Alpha Electronics is a whole new concept. It is compatible with any computer which has a standard Atari joystick port, because that is where it plugs in, and when used with many commercial programs it makes use of the joystick software, so all you do is plug in and use the joystick control option.

It is intended first and foremost for the SAM Coupé, but FORMAT readers will be delighted to know that it is also compatible with the Spectrum using almost any of the add-on joystick interfaces - provided your software works with that joystick interface you should have no problems. It is not plug compatible with the +2, +2a and +3 although a version for these machine may be available soon.

It is a very nice little two-button mouse, which matches Sam's keys in colour, sits easily in the hand and is smooth to operate. When I first received mine, I thought it was faulty because the buttons seemed to be permanently making contact and a stream of 0's and 1's appeared on screen, making it impossible even to boot up the DOS. But, on consulting the accompanying literature (when all else fails, read the instructions), I found reference to two small screws underneath the mouse, which can be turned to adjust the pressure required to press the buttons. A small tweak with a cross-headed screwdriver was all that was needed to get it operating perfectly, and to adjust it to suit one's own preference.

The full handbook was not ready when I received my mouse, but the two sheets of A4 which come with it really say all you need to know about it.

It also comes with a software disc (which is only for Sam users) with two versions of the mouse driver. It is recommended that if one version does not work with particular software, the other should. In fact, the commercial programs I experimented with did not need the mouse driver to be loaded because it worked quite happily with the joystick software.

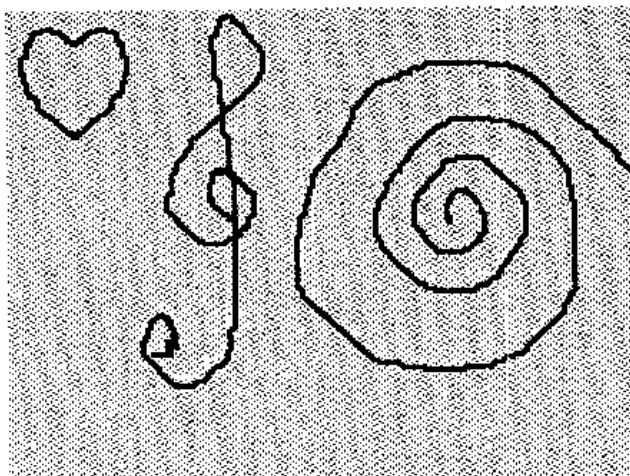
Also on the disc are Sam programs which not only demonstrate the mouse at work, but show you how to use it in your own programs. One program, which makes use of the mouse driver and some BASIC, is very fast indeed. The slightest touch moves the line being drawn on screen. The other uses no driver, but scans it by using INKEY\$. It is much slower in operation, but it does demonstrate just how easy it is to write this mouse into your own programs. As a bonus, this second program is a small disc utility which enables you to Format discs, bulk copy or erase marked files or rename files. The only time you use the keyboard is to give the new name of a renamed file, or to answer an "Are you sure?" prompt. Everything else is selected in windows, using the mouse.

Its response with Flash! is a little strange until you get used to it, because of Flash's joystick routines. There are three pokes which are really essential because they do improve the mouse response. You have to move the mouse slowly and steadily to move the cursor quickly, and if you move the mouse fast, the cursor hardly moves at all. Once you get the hang of it, it is a great improvement on keyboard control. A mouse is, of course, at its



best with windows, icons and pull-down menus like those in Flash.

I am not a very good artist, being quite incapable of drawing smooth curved lines freehand even with a pencil, let alone with cursor keys and an art package. The illustration shows a few motifs I managed with the mouse. Yes, I know a five-year-old could have done better, but the point is I have never before produced any sort of curved line freehand with Flash or any other art package, and I had only been playing with the mouse for a couple of hours when I did these. I cheated over the heart, by the way - drew one side and used BLOC to copy and mirror it to make both sides match. The only way I would have imagined it possible to draw a spiral in the past was to use THE ARTIST (48K Spectrum forerunner of Artist 2 and Flash) and its very good arc mode. Every curved line I have ever drawn in the past has been drawn - very laboriously, tiny bits of line at a time. The Joy-Mouse really does open up a new world of freehand drawing, even for one as incompetent as myself.



For detailed work at pixel level I would return to keyboard control, because it is more difficult to move to the exact pixel with a mouse - the slightest twitch moves the cursor. But you can switch between mouse and keyboard control at will. Also, I found it easier to hold down the M key to draw in PEN colour. You can hold down the mouse ON button, but I found that pressing on the button made it more difficult to control the direction of movement. You have to

keep the mouse itself straight as you move it in a curve. If you let it twist the curve on screen goes out of direction. I suspect these are techniques that have to be learned with any mouse. The mouse OFF button, with FLASH, moves the INK control anti-clockwise round the palettes. The keyboard has to be used for selecting PAPER colour, painting in PAPER colour and anything else requiring key N, selecting brush and spray can patterns, cycling through the fill patterns and so on. But menu and icon selection, cursor movement and switch triggering can all be done with the mouse.

I also wanted to see how good the mouse would be with Spectrum software running on Sam under an emulator. It was very good. The only 48K program I had with a Sinclair joystick option was Enduro Racer from Activision. Running a snapshot under SD Software's Specmaker, I selected Sinclair joystick, and the mouse operated perfectly. Again, I found it easier than controlling the game from the keyboard. I don't own Interface 2 and so have never tried this particular game with a joystick, but on the odd occasion I have used the joystick which comes with the Plus2 and Plus 3 with other programs, I did not find it half so easy to make fine adjustments as I did with this mouse.

So this pleasant little rodent is a very welcome addition to SAM's hardware, and as a bonus will be usable with the vast majority of computers now that Atari-compatible is generally accepted as the joystick standard (by everyone except Amstrad). A proper handbook and updated software are promised, but there is no need to wait for them. The mouse is available now, the leaflet provided is adequate. The handbook and latest software will be sent automatically to everyone who returns the guarantee card.

The mouse is available, at a special introductory price of £29.99 +p&p, from Blue Alpha Electronics, Ynysforgan Farm, Morryston, Swansea, SA6 6QL. (0792-310865).

NEV'S

# HELP PAGE

By:- Nev Young.

Hello I'm here again. With another selection of your letters and hopefully replies to them.

First from Mr D.Stokes who is having problems with typing in programs published in FORMAT. The listing of the KA program that you sent has 5 typing errors in it. On lines 400, 600 & 610 replace {8 GS 8} with {1 GS 8} Line 630 replace FRA with FREE line 400 replace F;:REM with F\$.

The problem with the minicalendar program is, I think, in line 230 where a for next loop uses N. This was set up in line 120 as a dimensioned array so the published listing is wrong. Try changing that line to:-

```
230 FOR B=1 TO MID-1: LET S$=S$+" - ":
    NEXT B
```

I have been lazy and not typed the program in to try it.

Member 91512 (no name!) has started what may be a long running series. He (she) is trying to convert BASIC programs written for another machine. I don't know which but it looks rather like IBM BASIC 3.0. Assuming this to be the case the questions and answers very briefly are:

Could PRESET X,Y be replaced by INVERSE PLOT: Try PLOT INVERSE 1; X,Y

```
LEFT$(x$,n) becomes x$( TO n)
MID$(x$,n[,m]) becomes x$( n TO [m])
RIGHT$(x$,n) becomes x$( n TO )
```

The difference between LOG and LN is the spelling.

ASC(x\$) becomes CODE x\$

To get integer division use n DIV m

ON STOP GOSUB line not possible on SAM

ON W GOTO line,line,line becomes ON W:GOTO line:GOTO line:GOTO line and it can do more than just goto you can use any command.

HF000 becomes &F000

OPEN filespec [FOR mode] AS [#] filenum [LEN = recl] becomes OPEN # filenum; filespec mode where filenum is 0 to 15 but avoid 0 to 3 as they are used by basic. mode is IN OUT or RND filespec is "drive : file" eg "dl:myfile" OPEN only works with MASTERDOS and MASTERBASIC.

Someday I might start doing a full list of changes.

J.Flood of Beaconsfield has sent me some useful info regarding SCART cables.. It seems that a number of TVs get upset by having too strong a signal from the SAM on pin 20 of the TV plug. As this is connected to pin 16 inside the plug a simple fix is to remove this link and replace it with a resistor of about 100 ohms or more as needed. This fixes the rolling screen problem for many TVs including the Phillips CM8833.

David Spark of Harrogate asks 3 questions about the "spooky" Sam:

1: is there an easy way of recording a disc directory and storing it in memory. Yes if you have Masterdos then use the DIR\$ function (see page 22 of the manual). If you are still using SAMDOS then you will need to write a short program to read in the directory eg.

```
10 FOR T=0 TO 3
20 FOR S=1 TO 10
30 READ AT 1,T,S,50000
40 LET DIR$=DIR$+ MEMS(50001 TO 5001
```

1)+ MEM\$(50257 TO 50267)  
50 NEXT S: NEXT T

2: What is RECORD TO used for? See your Sam manual pages 85,119 & 158. With Master Basic it is also used to record SOUND commands for later blitzing.

3: Could you tell me how to use Grab and Put. See your manual pages 76 & 81. Also see the help page in issue 4/2.

Kim Shen Ang of Milton Keynes writes with a great tale of woe that I won't repeat here. But the answer is, your DISCiPLE has gone to join its many dear departed friends in silicon heaven. If you want it repaired then contact PBT who advertise elsewhere in this magazine.

Dan Griffin in Plymouth is unhappy with the quality of the UHF signal from his +2A and would like to use a composite video. Is it possible to modify the RBG socket to get this signal? I believe that the +2A and the +2 RBG sockets are wired the same way and so the Composite PAL signal is already on pin 1 of the RBG socket at 1.2V pk-pk at 75ohms.

Mr C.Burn of Tyne & Wear (who seems to think I'm the editor!) writes quite a long letter to explain a very simple problem. How to read and write sectors from machine code on a PLUS D. Couldn't be simpler. Load the track number in the D register, adding 128 for side 2 and the sector number into the E register. Load IX with the memory address and the A register with the drive number. Then do a RST 8 followed by DEFB 68 (44hex) to read and DEFB 69 (45hex) to write.

For more details of how to use the command codes see back issues 2/3 2/4 2/6 & 3/2. You might only be able to store 80 files on your discs but I can get over 600 on mine! See if you can work out how I do it.

D.Finch asks if the DISCiPLE network is compatible with the Interface 1 network. Well yes it is and no it

isn't. The save and load commands are compatible on the version 3 ROM but you can not open channels to the network as the Interface 1 does. A program using the network appeared in issue 2/5

Doug Custerton of Hucknall asks me to explain the difference between Code files and Opentype files. It can be said that there is no difference but that would be avoiding the issue.

Opentype files get their name from the fact that they are created by using the OPEN# command from basic or Command Code 71 from machine code. The data they contain is organized by the program by writing bytes to the file as required. In basic using the PRINT command. They can be of any length upto the size of the disc and can be used to store absolutely anything.

A code file is just another file this time named after the way of creating it ie SAVE d\*"file" CODE start,length. These files can be no more than 64K in length they have extra data written into the file header and at the start of the file to hold the memory address they were saved from and their length. These files usually contain data in the form of machine code, hence the name, but are also often used to store amorphous chunks of memory holding data that is only meaningful to one particular program.

If you would like to see the structure of a CODE file then you can open it as an Open type file and read it. This is why I said that there is no difference. All files are opentype but some have a special structure and so are given other names. To read a code file, or any file come to that, use the following program:

```
10 INPUT "FILENAME ";LINE F$
20 CLOSE #*4
30 OPEN #4;D1;F$ IN
40 LET X$=INKEY$ #4
50 PRINT CODE X$,
60 IF X$>" " THEN PRINT X$;
70 PRINT
80 GOTO 40
```

Try this on a few files that you know the contents of and you will see the structure of the files from the display of the above program.

I have some bad news for P.I.Quanstrom who is having problems getting his Mannesman MT-80 to print out something other than garbage from FLASH.

There have been a number of different printers called the MT-80 from the very early ones that only have block graphics available to the latter ones that are Epson RX80 compatible. FLASH is one of those annoying programs that will only work with an Epson FX80 or full compatible.

Another little printer problem is being had by Corrado Nieddu in Cagliari who can not get Tasword 2 to send the special print codes to his Centronics PS220.

To set up the print codes you have to select option "g" from the main menu. Select the graphic character you wish to use for the printer function, (it is best to stick with the options that come with the program so you don't have to change the help text). Then enter the control codes for that function as defined in your printer manual. Tasword 2 comes setup with Epson FX80 codes so if your printer is compatible there should be no more to do here. For the DISCiPLE and PLUS D you also need to include the command POKE @6,0 in the basic part of the program. Line 279 is recommended in the Tasword manual.

Now for my 'regular' plea for help. I've never been let down yet but I think this might be the time. W.Hawksworth of Kendal uses the OCP Vat Manager for his business. But now that the VAT rate has changed to 17.5% he can no longer use it as there is only room for two characters in the VAT rate. Now these are stored as ASCII characters in the code at address 30923 with no space on either side so I can't see any easy way round the problem. Can anybody out there see a way out of this hole?

Any other complaints about VAT problems should be directed to Mr N.Lamont, 11 Downing Street, London.

Well I'm sure you are all getting very bored reading this so I'll stop. If you have any Spectrum or Sam type problems then please write, giving as much detail as possible, to the address below. Please note that I can not give personal replies even if return postage is enclosed, its not money but time thats the problem.

Write to: Nev Young,  
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# YOUR LETTERS



Dear Editor,

When I purchased my SAM, in early 1990, I knew there would be a shortage of software that would exploit the machine. Spectrum software would fill many of the gaps, I told myself, and things will start to appear soon.

Well I waited, and sure enough the software came and some of it has been very good. However there is still one thing missing - A SAM WORDPROCESSOR.

I don't want an excuse like Tasword 2 and I will not accept a rip-off like the 'so called' SAM version of DTP produced by PCG.

How can you take a machine seriously if, even eighteen months after launch, it still lacks a wordprocessor?

Yours sincerely, Stephen James.

Wordprocessors, especially good ones, take a long time to write. Several are on the way, you can rest assured that FORMAT will let you know as soon as a good one arrives. Ed.

Dear Editor,

I agree with your comments in reply to Chris Morris last month. Why do we British seem so ready to write to third parties about problems? Why are we at the same time so reluctant to pass on praise where it's due?

I have had problems in the past with one of INDUG's competitors, I'm not giving names - if they read this they will know who they are. It was impossible to ring them (no number published), I always had to waste time writing a letter and then wait up to a month for a reply. 6 letters, 14 weeks and a lot of frustration later, I finally got my problem sorted out. So much better to have a voice on the end of a phone I can relate to. Keep Up the good work Bob, I for one welcome the results of your efforts.

Yours sincerely, Paul Anderson.

I also have often wondered why almost ever publication you come across these days has an 'Agony Aunt'.

Our telephone hotline has been, right from the start in 1987, one of our strongest points. If you have problems relating to your membership then ring Jenny between 2.30 and 5.30 Monday to Friday. I will try to handle your technical problems between the same times, and also most evenings between 7.30pm to 9.30pm.

Of course, if your problem isn't urgent, or you are one of our many overseas members, then we welcome your letters - we just can't guarantee a personal reply that's all. Ed.

Dear Editor,

This is the first time I've felt strongly enough about something to write to a magazine.

Why do you ignore us games players? I know you don't do games reviews but what happened to the Hack Zone you used to print. I like Adventure Corner, but how about an Arcade Corner - just to keep us up to date on releases, pokes etc. Come on FORMAT, we need a serious look at games not just the childish drivel you get from the mags in the newsagents.

Yours sincerely, K.S.Lister.

The Hack Zone came to an end because it was losing direction. I had hoped it would develop into a forum for readers to swap hints on converting games to disc and so on. Sadly, Hugh was left to do things on his own. Like several other columns, the Adventure Corner being another, reader's support was just none existent.

I would like to print more. Articles on games theory, games design or perhaps articles on transferring games to SAM and improving them. But as I've said before - I can only print what comes in. Ed.

Dear Editor,

This year has seen the 10th Birthday of the IBM PC. It started with 64k of memory, crude graphics, and a tape interface (5.25" disc optional extra). Nine years ago the Spectrum was launched. In their first couple of years both machines sold in large numbers - in fact if Sinclair's early sales figures are to be believed then the Spectrum out-sold the PC many times over in its first year.

Each machine has gone through several incarnations, and I look here at the SAM as being the best Spectrum Uncle Clive never produced. So why is it that the computer press keep running down the Spectrum? Do they own shares in IBM?

Yours sincerely, Harry Davis.

The main-stream computer press seem to have 16 bits on the brain these days. New Computer Express is the most gross example, a forthcoming issue will almost double the cover price (from 88p to £1.50 just to include a FREE?! disc for Amiga/ST users. As Spectrum owners outnumber Amiga and ST owners by about 3 to 1 this you can bet they will alienate a lot of people. Ed.

Dear Editor,

Would it be possible to accept payment by GIRO? Here in the Netherlands GIRO is used by nearly everyone. To pay for something by Sterlin cheque cost us about £3 extra.

Yours sincerely, S.M.S.Kempees.

Sorry, but GIRO in the UK would charge us for any transaction coming in from abroad. It is also imperative that the payment is sent to us in the same envelope as the renewal/order.

The cheapest way for many people is to send cash by registered post. Round up to the nearest £5 (£1 notes are no longer legal tender in the UK) and we will use any extra to adjust the your membership accordingly. Ed.

\* - \* - \* - \* - \* - \*

Letters may be shortened or edited to fit on these pages.

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Le Club MICRO-EUROPE cherche à regrouper les possesseurs de SAM de langue française. Contactez Rigo Daniel, 58 rue P. Bauwens, B6030 Marchienne, Belgique.

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